ELSEVIER

Nuclear Engineering and Design 174 (1997) 365–367

Nuclear Engineering and Design

CONTENTS OF ISSUE 174 (1–3)

Foreword 1

Development of new Z-factors for the evaluation of the circumferential surface crack in nuclear pipes
Y.H. Choi, Y.K. Chung, Y.W. Park, J.B. Lee and G. Wilkowski 3

Crack shape evolution of surface flaws under fatigue loading of austenitic pipes
J.H. Kim and I.S. Hwang 17

Recent strategy and progress in Korean nuclear PLIM program
S.-Y. Hong, I.-S. Jeong and T.E. Jin 25

A research program for dynamic fracture evaluation of Japanese carbon steel pipes
K. Kashima, N. Miura, S. Kanno, K. Miyazaki, M. Ishiwata and N. Gotoh 33

Study on the effect of the crack length on the J_{IC} value
M. Kikuchi 41

Improvement of impact toughness of the SA 508 class 3 steel for nuclear pressure vessel through steel-making and heat-treatment practices
J.T. Kim, H.K. Kwon, H.S. Chang and Y.W. Park 51

Effect of dynamic strain aging on the leak-before-break analysis in SA106 Gr.C piping steel
J.-W. Kim and I.-S. Kim 59

Development of expert system for nuclear piping integrity
Y.J. Kim, M.W. Suh, H.K. Jun, Y.W. Park and Y.H. Choi 69

Progress of LWR structural safety research at JAERI
K. Shibata 79

Probabilistic fracture mechanics analyses of nuclear pressure vessels under PTS events
G. Yagawa, S. Yoshimura, N. Soneda and M. Hirano 91

Extended applications of LBB piping evaluation diagrams for a new plant design
Y.J. Yu, K.S. Yoon, S.H. Park, K.B. Park and Y.J. Kim 101

Announcement 111

Instructions to Contributors 113

Preface 117

Hydrogen combustion loads—plexus calculations
E. Studer and P. Galon 119

Material properties for reactor pressure vessels and containment shells under dynamic loading
C. Albertini 135

PII S0029-5493(97)00251-3

Modeling of containment structures on high performance computers
R.F. Kulak, P.A. Pfeiffer and E.J. Plaskacz 143
Ultimate capacity of a mark II primary containment using new probabilistic failure criteria
A. López, V. Cepeda, I. Maldonado and R.A. Dameron 157
Soil-structure interaction analysis of NPP containments: substructure and frequency domain methods
F. Venancio-Filho, F.C.P. de Barros, M.C.F. Almeida and W.G. Ferreira 165
Semi-probabilistic fracture mechanics approach for a quality assurance system for welds of a containment for a 1000 MW nuclear power unit
S. Butler 177
Discussion on recent concrete containment designs
J.L. Costaz and R. Danisch 189

Announcement 197
Instructions to Contributors 199

Preface 203

Re-evaluation of thermal shock experiment results based on the VTT approach for statistical treatment of fracture toughness data
K. Wallin 205
Dynamic material properties and their application to components
K. Kußmaul, A. Klenk, T. Link and M. Schüle 219
Damage mechanics analysis (Gurson model) and experimental verification of the behaviour of a crack in a weld-cladded component
W. Schmitt, D.Z. Sun and J.G. Blauel 237
Fracture toughness transition curve estimation from a notched round bar specimen using the local approach method
K. Hojo, I. Muroya and A. Brückner-Foit 247
Measurements of the acoustic field on austenitic welds: a way to higher reliability in ultrasonic tests
P. Kemnitz, U. Richter and H. Klüber 259
Microstructural changes and fracture behavior of CF8M duplex stainless steels after long-term aging
S. Kawaguchi, N. Sakamoto, G. Takano, F. Matsuda, Y. Kikuchi and L. Mráz 273
Long-term installations of the DC-potential drop method in four nuclear power plants and the accuracies thereby obtained for monitoring of crack initiation and crack growth
W. Oppermann, P. Hofstötter and H.P. Keller 287
Analysis and repair of cracking in partition plate of RHR heat exchanger at Brunsbüttel nuclear power station
W. Kleinöder and F. Otremba 293
Alternative methods for postweld treatment of austenitic pipe welds to increase the operational safety of BWR plants
J. Schmidt, D. Pellkofer and E. Weiß 311
Experience and assessment of stress corrosion cracking in L-grade stainless steel BWR internals
R.M. Horn, G.M. Gordon, F.P. Ford and R.L. Cowan 313
Influence of oxide structure on the elevated temperature pitting behaviour of Fe-Cr-Ni alloys
A. Gebert, F. Schneider and K. Mummert 327
Leak-before-break behaviour of austenitic and ferritic pipes containing circumferential defects
W. Stadtmüller and D. Sturm 335

Determination of more realistic $K_{e,r}$-factors for simplified elastic–plastic analysis
K.W. Bieniussa, H. Reck and H. Hübel 343
Investigation of the ratcheting phenomenon for dominating bending loads
J. Wolters, G. Breitbach, M. Rödig and H. Nickel 353

Contents of Volume 174 365
Author Index of Volume 174 369
Subject Index of Volume 174 371
Instructions to Contributors 373